WHAT IS CLAIMED IS:

1. An impact resistant structure of a helicopter, comprising: an energy absorber positioned under a floor of said helicopter and directly connected to a cabin frame of said helicopter, said energy absorber being arranged in accordance with a distribution of a ground reaction force on a general ground surface at a time of crash situation.

2. An impact resistant structure of a helicopter, comprising: an energy absorber in bundled-tubes state directly connected to a cabin frame of said helicopter at a position almost directly under a side wall of said frame where an impact load is concentrated at a time of crash situation.

3. An impact resistant structure of a helicopter according to Claim 1, further comprising a plurality of curved panels, which take a horizontal load due to a forward crash speed and are crushed in a pantograph shape by a vertical load at the time of crash situation, arranged almost in an longitudinal direction of said helicopter and connected to an sub-floor outer skin or web of said helicopter.

4. An impact resistant structure of a helicopter according to Claim 3, further comprising a truss frame connecting said curved panels almost in an X-shape so as to function as a frame member for holding said curved panels during a normal operational use and not to prevent said curved panels from deforming in said pantograph shape at the time of crash situation.

5. An impact resistant structure of a helicopter according to Claim 3, wherein a floor beam of said helicopter is arranged on said curved panels, said floor beam being connected to said frame to which said energy absorber is directly connected, thereby a frame-floor beam structure is formed.

6. An impact resistant structure of a helicopter

according to Claim 5, wherein a cabin structure in a gate shape is positioned above said frame-floor beam structure, said cabin structure being connected to said frame at both side ends of said frame.

7. An energy absorber comprising: a plurality of independent hollow tubes of fiber reinforced composite material integrally formed by bundling only said hollow tubes of fiber reinforced composite material, said hollow tubes of fiber reinforced composite material being arranged so as to reduce a number of intersecting walls of said hollow tubes of fiber reinforced composite material.

8. An energy absorber comprising: a plurality of independent hollow tubes of fiber reinforced composite material bundled by an outer layer of fiber reinforced composite material,

wherein said hollow tubes of fiber reinforced composite material and said outer layer of fiber reinforced composite material are arranged so as to reduce a number of intersecting walls of said hollow tubes of fiber reinforced composite material or outer layer of fiber reinforced composite material.

9. An energy absorber according to Claim 7, wherein said hollow tubes of fiber reinforced composite material and said outer layer of fiber reinforced composite material are arranged such that a number of intersecting said walls of said hollow tubes or outer layer is less than four surfaces.

10. An energy absorber according to Claim 7, wherein said hollow tubes of fiber reinforced composite material and/or said outer layer of fiber reinforced composite material for bundling said hollow tubes are formed in a plurality of layers in a thickness direction, a film-shaped layer material having lower strength than that of a base material being inserted between end portions of said plurality of layers.

11. An energy absorber according to Claim 8, wherein said hollow tubes of fiber reinforced composite material and said outer layer of fiber reinforced composite material for bundling said hollow tubes are integrally formed.

12. An energy absorber according to Claim 7, wherein a foaming material is inserted into a space properly selected from space between said hollow tubes of fiber reinforced composite material, space between said hollow tubes of fiber reinforced composite material and said outer layer of fiber reinforced composite material, and insides of said hollow tubes of fiber reinforced composite material.

13. An energy absorber according to Claim 7, wherein said hollow tubes of fiber reinforced composite material are provided with a sectional space for storing destroyed small pieces sequentially generated by progressive crushing.

14. An energy absorber according to Claim 7, wherein a sectional shape of each of said hollow tubes of fiber reinforced composite material is circular, elliptic, square, triangular, hexagonal, or octagonal.

15. An energy absorber according to Claim 7, wherein said hollow tubes of fiber reinforced composite material are arranged in a row or in plural rows and are bundled circularly, elliptically, rectangularly, or squarely by said outer layer of fiber reinforced composite material.

16. An energy absorber according to Claim 12, wherein said hollow tubes of fiber reinforced composite material, said foaming material, and said outer layer of fiber reinforced composite material are integrally formed.